UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte GARY D. HODGEN

Appeal 2007-0741
Application 09/313,625[1]
Technology Center 1600

DECIDED: August 23, 2007

Before TONI R. SCHEINER, ERIC GRIMES, and RICHARD M. LEBOVITZ, *Administrative Patent Judges*.

SCHEINER, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134 from the final rejection of claims 1, 2, 10, 12, and 13.[2] The Examiner has rejected the claims as unpatentable under 35 U.S.C. § 103(a). We have jurisdiction under 35 U.S.C. § 6(b). We reverse.

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[1] According to Appellant, this application is a divisional of Application 09/059,476, now U.S. Patent 6,653,297, issued November 25, 2003.
[2] Claims 3-9 and 11 are also pending, but have been withdrawn from consideration.

BACKGROUND

Long term estrogen replacement therapy is common for post-menopausal and other estrogen deficient women, but has been associated with undesirable side effects, including "an increased incidence of endometrial cancer, . . . uterine bleeding and cyclotherapeutic withdrawal menstrual bleeding during a time in their lives when many women welcome cessation of menstrual bleeding as a normal occurrence in menopause" (Spec. 1: 13-29).

One approach to avoiding the ill effects of estrogen therapy is to use a selective estrogen receptor modulator (SERM) in place of estrogen. SERMs - also known as anti-estrogens or selective estrogens - bind estrogen receptors and competitively block the binding of endogenous estrogens (*id.* at 2: 9-14). "However, all such [SERMs] can be, in fact, active estrogens depending on the tissue, dose/regimen and hormonal milieu of the drug exposure" (*id.* at 2: 16-18). That is, SERMs can exhibit complex "mixed function agonistic/antagonistic activities" and "[t]he degree to which the [SERM] acts as an estrogen also depends on the particular material and the tissue site" (*id.* at 2: 18-21). Among the best known of these SERMs are clomiphene, tamoxifen, and benzothiophenes like raloxifene (*id.* at 2: 15 and 6: 11).

Nevertheless, "[SERM] therapy . . . is not without its own problems" (Spec. 2: 22-23), including "a 'run away' endogenous estrogen" effect, due to "derangement" of the "hypothalamic-pituitary-gonadal axis involved in endogenous hormone production" (*id.* at 2: 24-25; 3: 22; 4: 12-13).

DISCUSSION

The present invention "relates to a method of using a SERM . . . postmenopausally, e.g., in hormone replacement therapy to prevent osteoporosis, cardiovascular disease and breast cancer . . . [while] preventing the hypothalamus and pituitary from operating in a deranged manner . . . [by] super[im]posing upon the use of a selective estrogen receptor modulator, the co-administration of a [ ] progestationally active [compound] to [post-menopausal] women" (Spec. 4: 8-19), in an amount effective to modulate the bleeding side effects of the SERM.

Claim 1 is representative of the claimed subject matter:

> 1. In a method of hormone replacement therapy comprising administering an effective amount of a selective estrogen receptor modulator to a woman in need of such therapy in order to control and regulate estrogenic impact on estrogen sensitive tissues and organs, the improvement which comprises additionally administering an agent which exhibits progestogenic activity in the woman in an amount which is effective to modulate the bleeding side effects of the selective estrogen receptor modulator.

According to the Specification, the "progestationally active" or "progestogenic" compound may be "progesterone, a synthetic progestin analog or even an anti-progestin having agonistic activity" and may further "exhibit both androgenic and progestogenic activity simultaneously[,]" like levonorgestrel (Spec. 7: 31 to 8: 14).

Obviousness

Claims 1, 2, 10, 12, and 13 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Young[3] and Peters.[4] The Examiner found that

- Young teaches SERMs for treating estrogen deficiency, and clomiphene is specified (Answer 3);
- Applicants disclose that it is known in the art that SERMs raise estrogen levels, which are responsible for the side effect of uterine bleeding (*id.*); and
- Peters teaches that it is known in the art to use levonorgestrel to control uterine bleeding (*id.*).

According to the Examiner, "[i]t would have been obvious to one of ordinary skill in the art . . . to add levonorgestrel to the treatment of Young to achieve the beneficial effect of controlling uterine bleeding in view of Peters" (*id.*).

The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art; and (4) secondary considerations of nonobviousness, if any. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). "Often, it will be necessary . . . to look to interrelated teachings of multiple [references] . . . and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known

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[3] U.S. Patent 4,729,999 to Young, issued March 8, 1988.
[4] U.S. Patent 5,116,865 to Peters et al., issued May 26, 1992.

elements in the fashion claimed" (*KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740-41, 82 USPQ2d 1385, 1396 (2007)). "[T]his analysis should be made explicit" (*id.*), and it "can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does" (*id.*).

In the present case, we find that the Examiner has not established that one of ordinary skill in the art would have had a reason to combine the references relied on in the manner claimed. In our opinion, the Examiner's rationale is based on an oversimplified interpretation of the teachings of the prior art.

It is true that Young teaches administering "a true antiestrogen, on a regular basis for an extended period of time, in the absence of administration of estrogen" to "postmenopausal or estrogen deficient subjects" (Young, col. 4, ll. 43-46). But Young *also* teaches that "[p]ostmenopausal women treated with estrogen-progestin combinations . . . frequently experience regular uterine bleeding which is unacceptable to many of them" (Young, col. 2, ll. 54-57). Moreover, while Peters does discuss controlling uterine bleeding with progestins, the discussion appears to be focused on uterine bleeding in *pre*-menopausal women ("These compounds find a wide range of beneficial applications in human therapy. . . . includ[ing], for example, in addition to suppressing ovulation in the human female, control of uterine bleeding, treatment of amenorrhea and dysmenorrhea, alleviation of endocrine disorders, and treatment of infertility." (Peters, col. 1, ll. 36-40)).

That being the case, and keeping in mind that SERMs were known in the art to exhibit complex, estrogen-like effects in some tissues, and anti-

estrogenic effects in others, depending on the particular SERM, the dose, the regimen, and the endogenous hormonal environment, we are not persuaded that one of ordinary skill in the art would have had a reason to superimpose a progestogenic compound on an anti-estrogenic compound. After all, as Young teaches, uterine bleeding is a frequent side-effect of combination estrogen-progestin therapy, despite the presence of the progestin.

We find that the Examiner has not established a prima facie case that the claimed invention would have been obvious over the cited prior art, and we reverse the rejection of the claims under 35 U.S.C. § 103(a).

REVERSED

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